

## ABSTRACT

A system and method for tracking multiple targets using distributed linear sensor arrays. The system includes a plurality of arrays of sensors for receiving signals from a target; a receiver for receiving signals received by the plurality of sensor arrays; an analog/digital converter for converting the signals received from the sensor arrays to a digital format, if signals are received in an analog format; a digital storage device for storing the digitized data from the sensor arrays; and a computer system for retrieving the stored digitized data from the plurality of sensor arrays and processing the data through the use of a composite Hough transform to determine a track of the target. Embodiments include a computer system and method for processing target data from sensors through the use of a composite Hough transform to determine a track of the target.